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NAS PENSACOLA
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WORK PLAN
OPERABLE UNIT 13 (SITES 8 AND 24)
NAVAL AIR STATION PENSACOLA
PENSACOLA, FLORIDA

CTO NUMBER 62467-03-G-0110 0009

PREPARED FOR:
DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND-
SOUTHEASTERN DIVISION
2155 EAGLE DRIVE
NORTH CHARLESTON, SOUTH CAROLINA 29406

PREPARED BY:
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TABLE OF CONTENTS

APPENDICES

1.0 Introduction

Aerostar Environmental Services, Inc. (AEROSTAR) has been contracted by the Naval Facilities Engineering Command–Southeastern Division (NAVFAC), to perform long term groundwater monitoring at Operable Unit 13 (OU) Sites 8 and 24, Naval Air Station Pensacola (NAS Pensacola), Florida.

This Work Plan (WP) has been developed for the project site, herein after referred to as OU 13. The Work Plan addresses issues which are site-specific to the project site. This section presents the project site history, scope of work, project schedule, meeting requirements, and reporting requirements in accordance with the contract agreement.

1.1 Project Information and Description

PROJECT NO: AES Proj. No. 0407-585-24

CLIENT: Department of the Navy, Naval Facilities Engineering Command

PROJECT/SITE NAME: Operable Unit 13 (Sites 8 and 24)
NAS Pensacola, Pensacola, Florida

CTO NUMBER: N62467-03-G-0110 0009

SITE ADDRESS: Site 8 is located near Building 3561 and Site 24 is located north of Building 3678, NAS Pensacola, Florida

AEROSTAR PROJECT MANAGERS: Emilie Wien and Tiffany Whitson

AEROSTAR OFFICE: New Orleans, Louisiana

DATE(S) OF SITE WORK: September 2007 through September 2012

1.1.1 Site Description and History

Naval Air Station (NAS) Pensacola is located in Escambia County, approximately five miles west of the Pensacola city limits. The approximate 5,000-acre installation was constructed in the 1800s. Prior to construction, the facility was undeveloped and sparsely vegetated. Land use at NAS Pensacola consists of various military housing, training, and support facilities, as well as large industrial complexes for major repairs and refurbishment of aircraft frames and engines.

OU 13 is comprised of Sites 8 (Rifle Range Disposal Area) and Site 24 (DDT Mixing Area) that border the eastern side of John H. Tower Road and are southeast of the intersection of John H. Tower and Taylor Roads.

Site 8 is an approximate 450- by 600-foot area currently occupied by Building 3561, which houses the NAS Pensacola Public Works Center Maintenance/Material Department. Site 8 includes the paved area around the building, along with several office trailers, fenced storage areas, and a parking lot. Most of Site 8 is surrounded by a chain-link fence. Site 8 contained a refuse

disposal/burning area and a rile range during the 1950s and 1960s. Building 3561 was constructed in 1976. During the 1980s, there was a pesticide storage and equipment rinsing area on the east side of the building.

Site 24 is immediately north of Building 3561 and Site 8. The northern portion is encompassed by the northwest corner of the Barrancas National Cemetery and contains many grave sites. The northern and central portions are primarily unpaved and sparsely covered with native grasses and trees. The southern portion contains a fenced storage area with a gravel and crushed shell surface. An unimproved dirt road runs east to west across the southern portion of the site. Site 24 was once used as a pesticide mixing and handling area. The site is currently used as a buffer zone between John H. Tower Road and the Barrancas National Cemetery and for cemetery burials.

1.2 Scope of Work

AEROSTAR will furnish all labor, equipment, lower-tier subcontractors, materials, supplies, and all else necessary to completely perform the Scope of Work identified herein. All work shall be completed in compliance with current federal, state, and local regulations, and in accordance with standard industry practice.

1.2.1 Health and Safety

Worker and community safety is of the utmost importance on this project. AEROSTAR and its subcontractors will comply with the health and safety requirements outlined in the Health and Safety Plan (HASP). The HASP was submitted under separate cover for approval by NAVFAC. All site workers shall be 40-hour OSHA HAZWOPER trained as specified in 29 CFR 1910.120 and shall be current with the 8-hour OSHA refresher. AEROSTAR will be responsible for providing all required personal protective equipment (PPE) for its workers and subcontractors in accordance with the HASP, upon approval by NAVFAC.

AEROSTAR assumes that the work will be performed in Level D PPE.

1.2.2 Facility Site Safety and Security

Workers shall be required to comply with the site safety and security regulations while working on NAS Pensacola. If required, AEROSTAR and its subcontractors will provide proof of U.S. citizenship for each employee to perform work on this project. AEROSTAR will provide facility safety and security protocol for workers' review prior to the commencement of site activities.

1.2.3 Requests for Information

When information/direction is required, AEROSTAR will submit requests for information (RFI) in writing to NAVFAC in order to document a specific problem, question or concern, and the answer or direction obtained in response to the RFI. The RFI shall include, as a minimum, a complete description of the problem/question/concern, a reasonable response date, and the signature of AEROSTAR's representative.

1.2.4 Environmental Protection

The work to be performed at OU 13 may have adverse impacts on the environment. AEROSTAR will perform/install temporary controls to minimize the environmental impacts and to meet the intent of federal, state, and local regulations designed to protect the environment. The temporary controls will include, but are not limited to: site access control; erosion and sediment controls (silt fence, hay bales, etc.), if needed; construction debris and waste control; water pollution control; dust control; and spill control.

1.2.5 Pre-Mobilization Submittals

Prior to mobilization, AEROSTAR will submit to NAVFAC for approval a Work Plan which includes an Execution Plan, Sampling and Analysis Plan, Waste Management Plan, and Quality Control Plan. A Site-Specific Health and Safety Plan will be submitted to NAVFAC under separate cover. The requested plans will be submitted separately to NAVFAC for approval prior to initiating site activities.

AEROSTAR understands NAVFAC may require revisions to these plans in order to ensure the project objectives will be achieved in accordance with applicable rules and regulations and at an appropriate level of worker safety. AEROSTAR will revise the documents until acceptable to NAVFAC.

1.3 Resources

AEROSTAR will provide the appropriate personnel, equipment, subcontractors, materials, supplies, and all else necessary to completely perform the Scope of Work.

1.4 Project Schedule

The proposed work schedule is included in Appendix A. Certain activities are dependent on the review and approval of work plans and pre-mobilization submittals, and their scheduled starting dates may be altered if the review periods are extended.

The schedule will be extended, as appropriate, for unforeseen delays such as inclement weather and other factors beyond AEROSTAR's control.

1.5 Meetings

AEROSTAR will schedule physical arrangements for meetings through the progress of site construction work; prepare meeting agenda with regular participant input; distribute written notice of each meeting, preside at meetings, record minutes to include significant proceedings and decisions; and reproduce and distribute copies of minutes within two days after each meeting with SOUTHdiv. The project meetings shall include, but are not limited to: a pre-construction meeting and daily tailgate meetings.

1.5.1 Pre-Construction Meeting

Prior to any on-site construction work, AEROSTAR will schedule a pre-construction meeting to discuss the following subjects, at a minimum:

- Required schedules
- Sequencing of critical path work items
- Progress payment procedures
- Project changes and clarification procedures (including RFIs)
- Use of site, access, office and storage areas, security, and temporary facilities
- Major product delivery and priorities
- AEROSTAR's Health and Safety Plan and representative (including required employee records)

1.5.2 Daily Tailgate Meetings

A daily tailgate meeting will be held each morning at the site by AEROSTAR to discuss the following subjects, as a minimum:

- The work planned for the day
- Changes in work assignment
- Health and safety issues
- Review problems encountered the previous day
- Sign the safety task assignment form prior to beginning any work onsite

2.0 Execution Plan

This section provides the technical approaches for each of the on-site activities included in the Scope of Work. AEROSTAR will furnish all labor, equipment, materials, lower-tier subcontractors, supplies, and all else necessary to completely perform the Scope of Work identified herein. All work shall be completed in compliance with current federal, state, and local regulations, and in accordance with standard industry practice.

2.1 Scope of Work

The objective of this project is to monitor the contaminant levels in the groundwater monitor wells located at OU 13 at NAS Pensacola, Florida. The components of the work to be performed at OU 13, NAS Pensacola include the following:

- Mobilization and Site Setup
- Groundwater Sampling
- Replacing up to Six Monitoring Wells
- Abandoning Six Monitoring Wells
- Decontamination and Demobilization
- Reporting

2.1.1 Mobilization and Site Setup

This task includes mobilizing personnel, equipment, subcontractors, and materials to the site and establishing temporary facilities to conduct the project activities. The contractor will review all regulations, and standard operating procedures (SOPs) regarding vehicle movement and control inside the facility. All location provisions will be observed including notifications and communication requirements. The contractor will minimize disturbance to any operations during project activities. The contractor also will consult with onsite Navy personnel to evaluate area access, placement of equipment, and traffic flow to minimize the effect of this work on facility operations.

Prior to the commencement of work at the site, AEROSTAR will install site controls including construction barricades and security fencing and prepare the decontamination area and equipment laydown area, if necessary.

2.1.2 Groundwater Sampling

A total of twelve groundwater samples will be collected and submitted for analysis. Groundwater samples will be collected from 08GR01 through 08GR06, 24GS01, 24GS02, 24GS06, 24GS09, 24GS10, 24GS11, and 24GS15. Refer to Section 3 for the Sampling and Analysis Plan.

2.1.3 Replacement Monitoring Wells

Groundwater samples will be collected from 08GR01 through 08GR06, 24GS01, 24GS02, 24GS06, 24GS09, 24GS10, 24GS11, and 24GS15. If any of these monitoring wells cannot be located or are dry during the initial sampling event, replacement wells will be installed closest to the previous monitoring well location.

2.1.4 Abandonment of Monitoring Wells

Monitoring wells 08GR04, 08GR06, 08GR07, 24GR09, 24GR10, 24GR12, 24GR13, 24GR14, 24GS03, 24GS04, 24GS05, 24GS07 and 24GS08 were scheduled to be abandoned; however, 08GR06, 08GR07, 24GR10, 24GR12, 24GR13, 24GR14, and 24GS07 were previously abandoned. Six monitoring wells (08GR04, 24GR09, 24GS03, 24GS04, 24GS05, and 24GS08) will be abandoned during the base year of the contract.

2.1.5 Decontamination and Demobilization

Before leaving the work area, personnel and equipment will be decontaminated after coming in contact with contaminated material. All debris and/or rinsate generated during the decontamination activities will remain inside the exclusion zone until it can be placed into containers for proper storage and subsequent disposal. Equipment will be thoroughly decontaminated to remove any contamination adhering to the component surfaces.

Decontamination of personnel and PPE will be performed in accordance with 29 Code of Federal Regulation (CFR) 1910.120.

Before traveling from an exclusion zone to a clean area, all decontaminated equipment will be inspected and documented by the contractor.

2.1.6 Reporting

Semi-Annual Reports will be prepared upon receipt of all of the analytical data for the base year, first option year, and second option year of the contract. Reports will be submitted on an annual basis for the remaining two option years of the contract. The reports will document the results of the soil and groundwater analyses from the DPT soil sampling and the nine monitoring wells installed at Building 38. The report will include a brief site background, a summary of the monitoring well installation and sampling activities, a summary of the sampling results, and recommendations for future actions. The reports will be submitted to the Florida Department of Environmental Protection (FDEP) and will include separate tables summarizing groundwater elevation data, groundwater analytical results, and soil analytical results**.** The reports will also include separate figures showing the groundwater monitor well locations, groundwater elevation and flow direction, groundwater analytical results, soil boring locations, and soil analytical results. Sampling logs, chain-of-custody forms, field forms, and analytical reports will be included in the Appendices of the report.

3.0 Sampling and Analysis Plan

To investigate the degree of contaminant migration, AEROSTAR will collect groundwater samples from twelve monitoring wells for laboratory analyses in accordance with the Statement of Work (SOW). Samples will be collected according to the FDEP Standard Operating Procedures (SOPs) May 2006, especially FS2200. AEROSTAR's WorkPlan will also be used to establish the appropriate protocols and quality assurance/quality control (QA/QC) requirements. All sampling methods will comply with the appropriate FDEP SOPs and federal guidelines referenced in Section C of the RFP and all other requirements referenced in the solicitation.

Prior to purging the wells, static water level measurements will be collected in all designated wells using an electronic sensor with tape graduated in 0.01 foot increments. The well caps will be removed from all of the designated wells to allow for equilibration of the water table prior to water level measurements. The depth to water will be recorded from the mark on the top of the well casing facing north and recorded in the field logbook.

Prior to groundwater sampling, each well will be purged using a low-flow peristaltic pump in accordance with the FDEP's Standard Operating Procedure for Field Activities (DEP-SOP-001/01). Purge water will be containerized and stored in the Navy specified location. AEROSTAR anticipates all liquid investigative derived waste (IDW) will be drummed during purging activities and temporarily stored on-site until disposal by the contractor.

Field measurements of dissolved oxygen (DO), turbidity, pH, temperature, and specific conductivity will be made during initial purging and at five-minute intervals thereafter utilizing a flow through cell.

Groundwater samples will be collected once field parameters have stabilized within approved SOP requirements over three consecutive measurements. Groundwater samples will be collected in appropriate sample containers supplied by the subcontracted laboratory, placed on ice in a shipping cooler, and delivered to the approved subcontracted laboratory for analysis. The groundwater samples collected will be analyzed for the constituents indicated in RFP N69450-07-R-7001. Laboratory analyses that will be performed pursuant to the RFP will include VOCs of methylene chloride, trichloroethene, and vinyl chloride per EPA Method 8260B, pesticides dieldrin and heptachlor epoxide per EPA Method 8081, and metals of antimony, cadmium, iron, lead, manganese, nickel, and thallium per EPA Method 6010.

AEROSTAR will perform decontamination procedures consistent with the FDEP SOPs (May 2006) following each well sampled.

4.0 Waste Management Plan

AEROSTAR will arrange for the transportation and disposal of all generated wastes. IDW will be handled and coordinated between AEROSTAR and NAS Pensacola. AEROSTAR will be responsible for manifesting and ultimately disposing of the IDW. U.S. Navy personnel will provide generator certification and signature for all waste documentation.

Liquid IDW will be temporarily stored in properly labeled 55-gallon drums identified with labels marked “Awaiting analysis” and stored in the Navy specified location. A composite sample will be collected from the drums in accordance with EPA Region IV Environmental Investigations Standard Operating Procedures and Quality Assurance Manual, 1997 (EISOPQAM) and the FDEP regulations. The samples will be submitted to a Navy approved laboratory for the analysis required by the permitted hazardous waste facility. A Navy Level C Quality Control and CCI Level B package will be required along with appropriate Quality Control samples for the required waste characterization and incidental waste stream samples.

Any contaminated solid wastes will be temporarily placed in labeled 55-gallon drums identified with “Awaiting analysis” labels and stored in the Navy specified location. Uncontaminated general construction debris exceeding one cubic foot will be placed within properly labeled containers or placed in stockpiles, pending offsite disposal.

5.0 Quality Assurance/Quality Control Plan

This Quality Assurance Project Plan (QAPP) has been prepared to provide QA/QC requirements for sampling activities, sample analyses, and other tests that will generate data as part of the activities performed for the project. This QAPP has been prepared in accordance with the U.S. Environmental Protection Agency's (EPA) *Guidance for Quality Assurance Project Plans* EPA QA/G-5 (U.S. EPA, December 2002).

QA involves all those planned and systematic actions necessary to provide adequate confidence that field activities will be performed satisfactorily and safely. The goal of QA is to ensure that activities are planned and performed according to accepted standards and practices to ensure that the resulting data are valid and useable for the project decision-making process, while continuing to meet safety requirements. QC is an integral part of the overall QA function and is comprised of all those actions necessary to control and verify that project activities and the resulting data meet established requirements.

The requirements of this document apply to AEROSTAR and its subcontractors. Deviations from these procedures will be documented in the final report.

5.1 Laboratory Work Group

The selected laboratory is responsible for analyzing samples collected during field activities, in accordance with the sampling plan (SP) and the laboratory's quality assurance plan. The laboratory project manager (PM) or client service manager acts as a liaison between field and laboratory operations and is responsible for the following:

- Receipt of sample custody from the field team members, verification of sample integrity, and transfer of sample fractions to the appropriate analytical departments.
- Coordination of sample analyses to meet project objectives.
- Preparation of analytical reports.
- Review of laboratory data for compliance with method requirements.
- Review of any QC deficiencies reported by the analytical department manager.
- Coordination of any data changes resulting from review by the project QA supervisor or the PM.
- Completion of data package deliverables.
- Response to questions from the project team during the data quality evaluation process.

5.2 Project Communication

Effective communication among all project personnel shall be established and maintained throughout the course of the project. At the beginning of the project, and/or at the start or end of major milestones, the PM will prepare written project

instructions that will be distributed to all team members. These instructions will document project and task objectives and each team member's responsibility in meeting the objectives, as well as a budget and schedule for successfully executing the work.

Before field activity begins, a project team meeting will be held to review the project objectives. Periodic meetings will be held to review data validity, technical evaluations, major decisions, and overall progress toward completing the project. Additionally, a team kickoff meeting will be held before work on each task is started. Senior personnel may participate in the meetings to help focus the project approach and to define specific issues.

During the field investigation phase of this project, the field team will meet daily to review the status of the project and to discuss technical and safety issues. When necessary, other meetings will be scheduled or the field team leader (FTL) will meet individually with field personnel, EPA personnel, or State personnel to resolve problems.

During the field effort, the FTL will be in regular telephone or face-to-face contact with the project team. When significant problems or decisions requiring additional authority occur, the FTL will immediately contact the PM for assistance. The FTL will coordinate communication with the laboratory through sample collection, sample analysis, and data quality evaluation and consult with the PM.

5.3 Special Training, Requirements, and Certifications

The Project Manager works with the project delivery manager to assemble a project team that has the necessary experience and technical skills. Part of the work planning process is to identify special training requirements or certifications necessary to execute the project successfully. Special training or certifications required beyond the normal routine requirements have not been identified for this project.

5.4 Documentation and Records

This section defines which records are critical to the project and what information needs to be included in reports, as well as the data reporting format and the document control procedures to be used. It is imperative for the defensibility of critical decisions made at the site that proper documents and records be maintained for the field and offsite data gathering activities, so that specific events can be recreated or independently evaluated. The Project Manager will be responsible for organizing, storing, and cataloging all project information. The Project Manager is also responsible for collecting records and support data from all project team members. Individual project team members may maintain separate notebooks for individual tasks. Any files necessary to be retained in the permanent file will be forwarded to the Project Manager for real-time archiving upon preparation. Permanent files will not be retained in individual team member's possession but will be forwarded to the Project Manager at the close

of the project. Copies of permanent records may be retained in their individual files for use during the project and discarded at the close of the project. Personal copies of permanent records will not be forwarded to the Project Manager at the close of the project; it is the individual's responsibility to ensure records in their possession are archived in real-time.

5.5 Field Documentation

Primary fieldwork includes sampling for chemical characterization. Applicable documents and records include the following:

- Field logbook to record data collection activities and observations (including date and time, sample locations, depth, health and safety measures, weather conditions, sampling personnel, analyses requested, and sketches).
- Sample collection field sheets or chain-of-custody (COC) documentation.
- Field instrument calibration and maintenance logs.
- Additionally, field quality control and corrective action documents may be generated as a result of field audits.

5.6 Data Quality Objectives for Measurement Data

All samples will be delivered to a Navy/state approved laboratory for a standard 2-week turnaround time. The laboratory also will have an FDEP-approved Comprehensive Quality Assurance Plan. The offsite laboratory analysis data quality objectives for the groundwater investigation are definitive and data packages will be consistent with the criteria stated in Section C of the RFP. The sampling and analytical requirements are listed as an attachment to this document.

All analytical results will be validated or qualified according to general guidance provided in the National Functional Guidelines for Inorganic Review (EPA 540/R-94/013, February 1994). Additionally, the data will be evaluated for adherence to the U.S. Department of Defense Quality Systems Manual for Environmental Laboratories Final Version 2 (June 2002).

The electronic deliverable will be provided by the laboratory as specified in the data management section of the work plan.

6.0 Approval

This Work Plan has been written for use by AEROSTAR only. The plan is written for the specific site conditions, purposes, dates, and personnel specified and must be amended if those conditions change.

6.1 Original Plan

Written By: Emilie A. Wien _____ Date: _____

Approved By: Leon J. Carrero P.G. _____ Date: _____

6.2 Revisions

Revisions Made By: _____ Date: _____

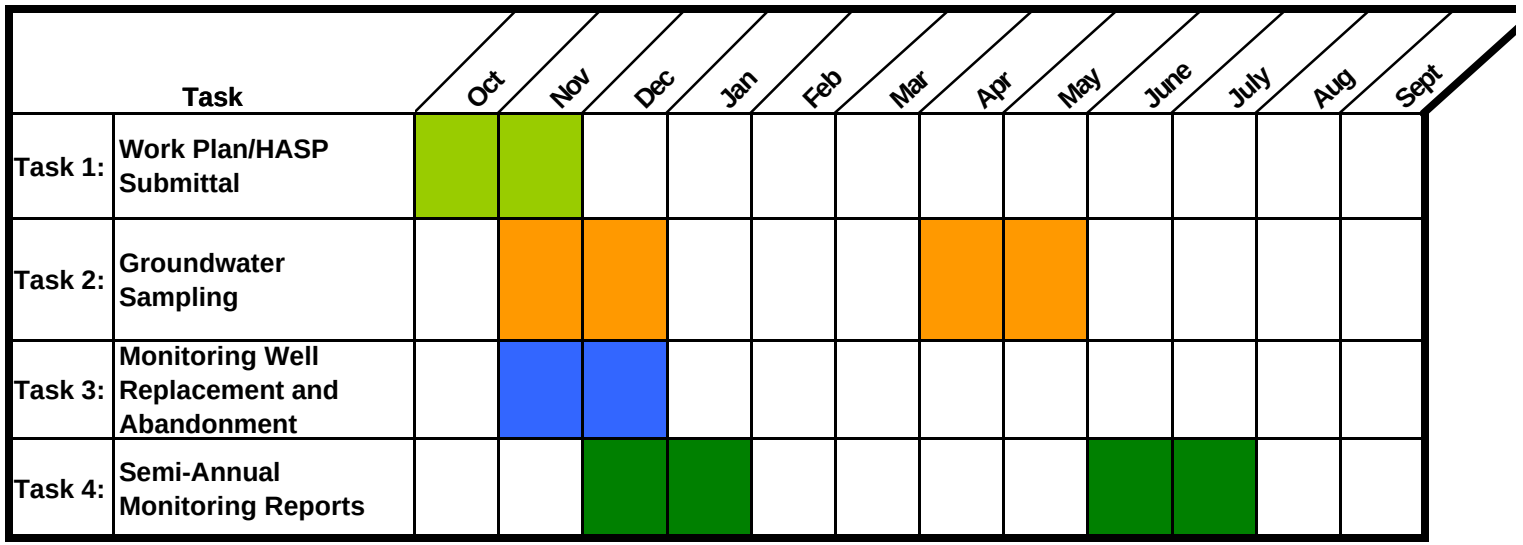
Revisions to Plan: _____ Date: _____

Revisions Approved By: _____ Date: _____

Appendix A

Work Schedule

OPERABLE UNIT 13 (SITES 8 AND 24)
NAVAL AIR STATION PENSACOLA
SCHEDULE



Note: The SAR Report will be submitted to the FDEP

Appendix B

Sampling and Analytical Requirements

OPERABLE UNIT 13
(SITES 8 AND 24)
NAVAL AIR STATION PENSACOLA
SAMPLING AND ANALYSIS REQUIREMENTS

Sample ID	Description	Analyses	Holding Times	Sample Container Type / Volume	Preservatives
Liquids	*Groundwater Samples*	VOCs: methylene chloride, trichloroethene, and vinyl chloride	14 days	Two 40-milliliter viles, full	Hydrochloric Acid (HCL)
		Pesticides: dieldrin and heptachlor epoxide	14 days	1 Liter Glass Container	None
		Metals: antimony, cadmium, iron, lead, manganese, nickel, and thallium	28 days	Plastic 16-ounce Container, full	Nitric Acid (NHO3)